BRYAN (Jas)

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AN ESSAY

ON

HERNIA.

BY

JAMES BRYAN, A. M., M. D.,

PROFESSOR OF ANATOMY IN THE NEW YORK MEDICAL COLLEGE; PERMANENT MEMBER OF THE AMERICAN MEDICAL ASSOCIATION; FORMERLY PROFESSOR OF SURGERY IN CASTLETON, GENEVA, AND PHILADELPHIA MEDICAL COLLEGES, ETC. ETC.

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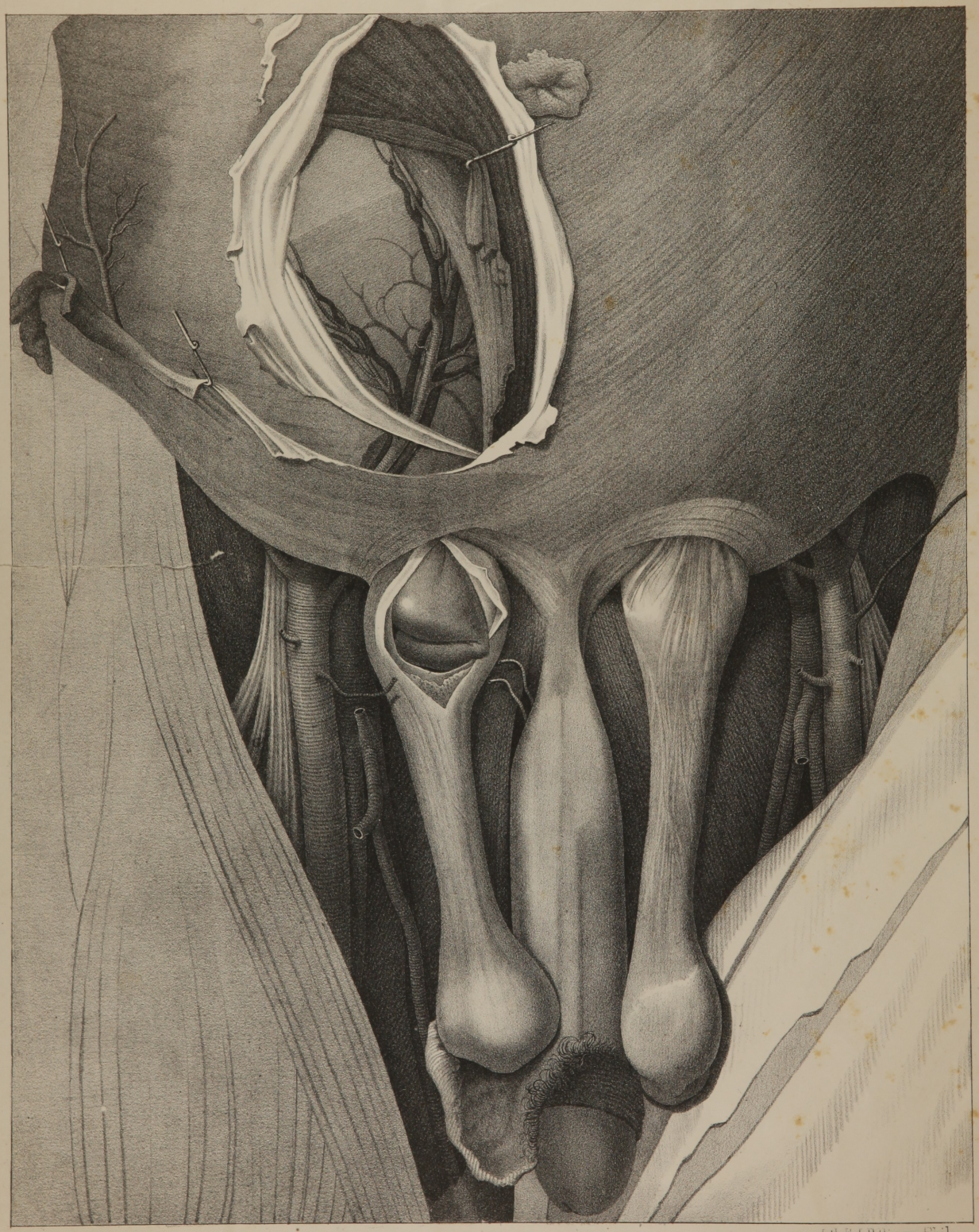
This work is respectfully dedicated to Professor S. D. Gross, M.D., whose eminence as an author and practical surgeon, make him an ornament to the American Medical Profession, and whose amiable social qualities, endear him to his friends and the public.

By his friend,

THE AUTHOR.



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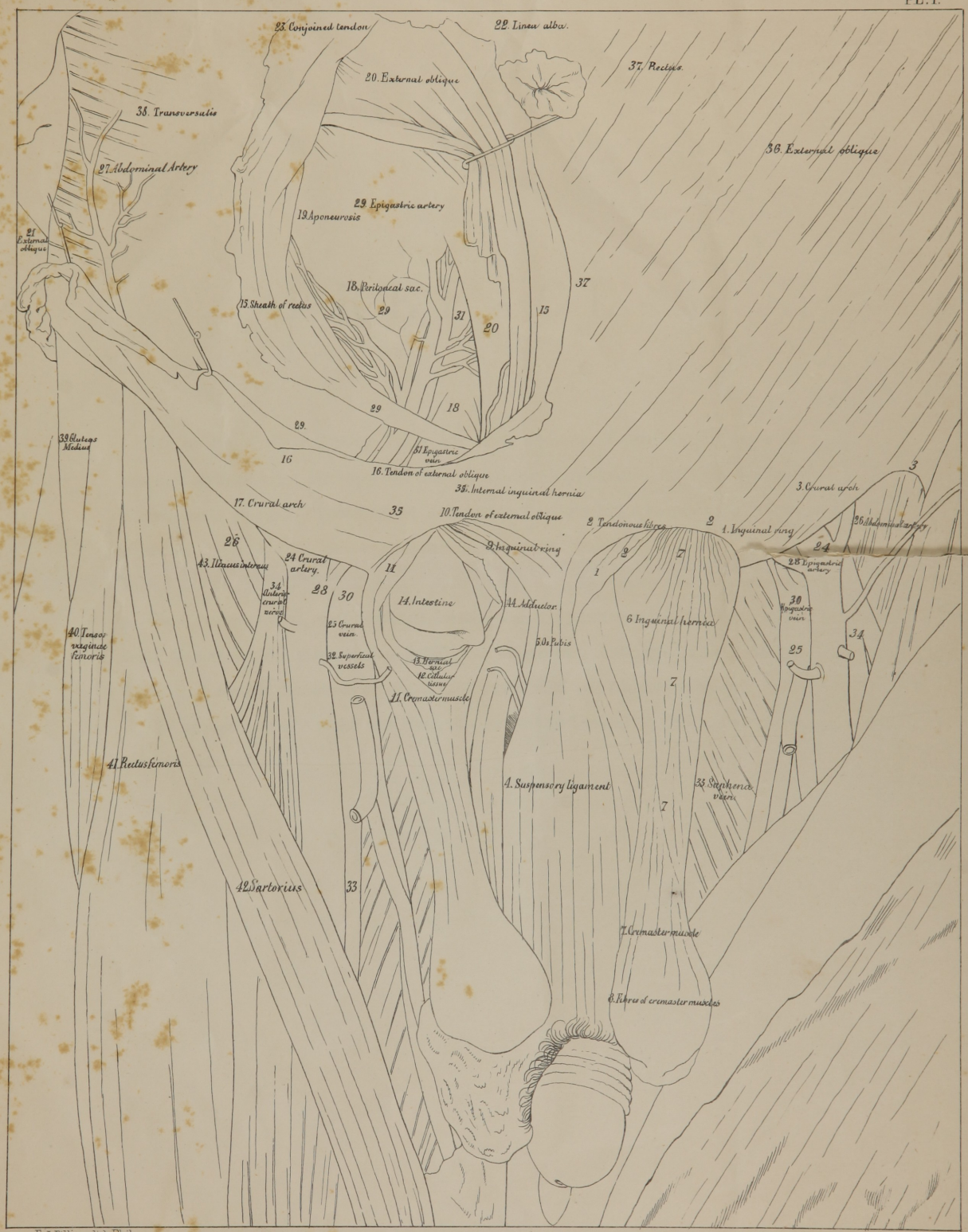

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PREFACE.

THE writer of the following Essay has been desirous of producing a work in the best style of art. He supposed that an American production, with illustrations drawn from every-day practice, on a subject of so much importance and of so common occurrence in the experience of the practitioner as Hernia, might be acceptable to the *student* and *junior practitioner*. In the absence of the facilities of the dissecting-room, well-executed drawings of the parts involved in the disease, tend to refresh the memory and fortify the judgment. Lithography now takes a high stand among the means of illustrating anatomical and surgical subjects.

The author hopes to make the Essay as practical and useful as the nature of its subject demands.

HERNIA.

HERNIA is the protrusion of parts of one or more of the viscera of the pelvis, abdomen, thorax, or skull; and may be designated, in a general description of the disease; Pelvic, Abdominal, Thoracic, or Cerebral. The more common localities of the affection, are the abdomen and pelvis.

Abdominal Herniæ are classified, 1st. In reference to their locality; 2d. Their contents; and 3d. Their conditions.

1. Abdominal Herniæ are termed, 1. Umbilical, when they protrude at the umbilical orifice; 2. Inguinal, when connected with the inguinal canal; 3. Scrotal, when they extend to the scrotum; and, 4. Femoral, when their contents pass out through the femoral canal. When these pass through the abdominal parietes direct, they are designated, 5. Ventral. The umbilical may be either *congenital*, or *acquired*, after birth; and so may each of the other forms of Abdominal Herniæ. The inguinal is termed *direct*, when the contents pass all along the inguinal canal, having entered at the internal ring, and passed out at the external. This kind of Hernia is also divided into *complete* and *incomplete*, according as the contents pass all the way through, or only pass part way through, this canal. When the contents of this latter Hernia, instead of passing down to, and out of the external abdominal ring, find their way through the walls of the canal, it is denominated *Ventro-inguinal*.

Another form of Hernia, is the Ventral, obtruding directly through the abdominal walls. Some writers treat of such as protrude through the linea alba, as still other varieties.

2. Either of these Herniæ may contain, 1. *Omentum*, when they are called Omental Herniæ, or Epiplocele; or 2. *Intestine*, when they are designated Intestinal Herniæ, or Enterocele; or, 3. They may be composed of both *omentum* and *intestine;* when they are named Entero-epiplocele. This is the most common form of the disease. Other parts of the abdominal or pelvic viscera have been found in these tumors, viz.: the bladder, forming Vesical Herniæ; the stomach, forming Gastrocele; the liver, forming Hepatocele, &c.

3. The third division has reference to the condition of the Herniæ. They may be, 1. *Reducible*, or in a condition in which, by slight effort on the part of the patient, or his attendant, the tumor may be reduced, by the restoration of its contents to the abdominal cavity; 2. They may be *irreducible*, or in a condition, on account of adhesion to the neighboring parts, and other causes, in which their contents cannot be restored to the abdomen; at least not without a serious operation. The patient may, in these cases, be comparatively comfortable, and not be much incommoded by the disease. And 3. From being in the first or second condition, the tumor may become, either suddenly or more slowly, what is denominated *strangulated.* This condition is accompanied with great pain and inflammation, and often endangers life.

The composition of a Hernial tumor may be stated as follows:

1. The external integuments; including the skin, cellular and adipose tissues. superficial fasciæ, &c. 2. The sac or sacs, which cover the contents of the tumor, This sac consists, generally, of the peritoneum, which has been driven before the viscera protruding from the abdomen. Repeated attacks of inflammation will sometimes multiply the number of sacs, by the effusion of lymph, which afterwards becomes organized, or semi-organized, so as to constitute a covering for the first sac or sacs. 3. We find inside of the sac the contents, properly so called, viz., a knuckle of intestine, a portion of omentum, or both, or portions of other of the abdominal viscera. The sac also contains more or less fluid, which varies in color and consistence, according to the conditions of the parts.

A Hernial tumor may also be either recent or ancient; the tolerance of strangulation being generally much greater in old than in recent Herniæ.

The Pelvic Herniæ are divided into, 1. Labial or Pudendal; 2. Perineal; 3. Ischiatic; and 4. Thyroidal; as they protrude at one or other of these several regions Like femoral of the abdomen, these Herniæ are generally found in the female, and

seldom in the male. They occur much less frequently, also, than those of the abdomen.

1. *Umbilical Hernia* is generally the Hernia of infants or of females. It is sometimes congenital, but more frequently it occurs in the early periods of infancy, after the dropping off of the cord. The umbilical opening, from various causes, not becoming well and firmly closed, allows portions of the contents of the abdomen to obtrude and form, generally, a small tumor. Great care should be taken to secure the radical cure of this Hernia, by closure of the umbilical orifice while the child is still young and the parts are disposed to close by the natural growth of the body. Fortunately, all that is necessary, in most cases, to secure this, is to keep the contents of the tumor well pressed into the abdomen, by some properly applied, but simple apparatus,—very often a piece of sheet lead, sewed into a band, which passes round the abdomen, while the leaden pad, which should be convex inwards, is made to press on the orifice of the umbilicus, and thus keep the contents fully in the abdomen. The daily application of cold water, or salt and water, will assist in giving tone to the parts. Sometimes a light and well-adjusted spring truss and pad will be found the most convenient and effectual. The severe operations of taking up the integuments on pins, applying ligatures, or the treatment by caustic or cautery, are seldom resorted to now, in these Herniæ, when they occur in children, or even in adults.

When this Hernia occurs in adult females, it sometimes becomes very large, and difficult to reduce and retain in place. Females who have borne many children, and have large and relaxed abdomens, are most subject to the disease. A large, light pad, with a broad band or a steel spring around the abdomen, are the usual means of relief. The disease is very seldom cured.

2. *Inguinal Hernia* is, as above stated, either congenital or acquired, direct or indirect, complete or incomplete. When, in either of these primary forms, it passes into the scrotum, it is denominated Scrotal Hernia. The tumor, in Direct Inguinal Hernia, is pyriform, the base being downwards; and may be from one inch to twenty or thirty inches in its long diameter,—forming a soft, regular, somewhat doughy tumor. It has the ordinary color of the integuments of the parts; except when strangulated or otherwise inflamed. Indirect, or Ventro-inguinal Hernia, does not become so large as the direct; at least, not so suddenly large. The incomplete form of the disease is, of course, a small tumor in the course of the inguinal

canal; so small and doubtful in its character, as to be readily confounded with other affections. When reducible, this variety of Hernia may be no great trouble to the patient; but when strangulated, as it is not unfrequently liable to become, it is both painful and dangerous.

Scrotal Hernia is much the larger variety, and occasionally acquires an immense size. The writer has seen one case, in which the tumor extended below the knees, and was enlarged laterally in the same proportion, forming an immense bag, filling up the space between the separated thighs. The patient was in the habit of reducing it, by pressing his thighs against its sides and pressing upwards, with both hands on its fundus or base.

Reducible Inguinal Hernia is that form of the disease in which the patient is in the habit of pressing up the contents into the abdomen, with or without assistance. It may have been brought on suddenly, by some of the ordinary exciting causes, or it may have grown gradually, from small and imperceptible beginnings, until it has acquired any given size. It is very apt, when once acquired, to continue through the rest of the life of the individual. In addition to being strictly congenital,—that is, existing at birth,—it in some cases comes on at particular periods of life, and in some persons, from a congenital predisposition. In other words, the disease having existed in the parents, is more easily induced in the children.

Diagnosis.—Inguinal and Scrotal Hernia may be confounded, 1, with undescended testicle. The author well remembers the case of a boy of fourteen years of age, who had worn a truss for two years, under the direction of the family physician; and, having complained of the pain, was sent to the manufacturer to procure a new and a larger truss. The maker being unable to fit an instrument that did not induce pain in the parts, brought the boy to obtain additional advice. The supposed Hernia was on the left side and was easily, *partially* reduced, but could not be entirely restored to the abdomen. On further examination, the tumor was found to be harder than usual, and painful on pressure; and there was no testicle in the corresponding scrotum. The truss was left off, and no evil consequences ensued: the testicle did not descend much below its position, at that time.

2. This Hernia may be confounded, especially when incomplete and small, with enlargement of the inguinal glands. From these it may be distinguished by its history, the solid character of the enlarged glands, and by its reducibility when reducible. When strangulated, the painful condition of the Hernia with the characteristic symptoms of strangulation will serve to distinguish them.

3. It may be confounded with Hernia of the cord. Dr. Malgaigne recites several cases of Spermatic Hernia which occurred in his practice, in which a collection of semen in the vas deferens produced the usual appearances of Hernia.

4. It may be mistaken sometimes for varicose or enlarged veins of the cord. More frequently the scrotal variety is confounded with varicocele or enlarged veins of the testicle. The sensation of worms rolling between the fingers of the surgeon on examining the tumor will, however, generally enable him to distinguish this disease from Hernia. He may also easily make the distinction (in reducible Hernia) by attempting to reduce the tumor, by pushing its contents into the abdomen. By placing the patient on his back and applying moderate pressure, the hernia is often readily reduced; and then placing his hand or fingers over the external abdominal ring while the patient voluntarily rises to his feet or coughs, he feels the concussion of the hernial contents against his fingers or hand. On the other hand, varicocele is not to be reduced in this way, or at least it will be reduced very slowly, and never completely: and there will be no concussion experienced when the patient rises or coughs.

5. The disease has sometimes been mistaken for hydrocele. The shape and general appearance of the tumor here, are very much those of Scrotal Hernia: nevertheless, two or three easily observed differences will enable the careful surgeon to recognize the diseases. 1. Hydrocele is irreducible in any position of the body. 2. When the tumor is held between the eye of the surgeon and a light, even that of a taper, its walls are seen to be translucent. By standing on the right side of the patient and holding the tumor outward with the right hand, while the shadow of the hand falls upon the front of the tumor and the light, artificial or other, is made to pass on one side or behind it, the translucency will be obvious. Taking the patient into a dark room and using a lighted candle, is a very effective mode of making the experiment.

6. Hydrocele of the cord, and various tumors in the track of the Hernia, may obscure the diagnosis, and induce the necessity of great care on the part of the surgeon in forming his diagnosis. Malgaigne reports several cases of spermatocele of the cord in the region of Inguinal Hernia, which might be mistaken for Hernia.

Reducible Hernia.—This form of the disease may be divided into congenital, acquired, recent, ancient, complete, and incomplete. The congenital form of the disease is not so common as the Hernia of infants. The treatment of the congenital

does not differ materially from that of young children. When the latter occurs (the inguinal is the usual variety, and that in male children before the tenth year of age), the use of an appropriate and well-adjusted truss will generally cure the disease by inducing adhesion of the walls of the canal, or by retaining the contents of the Hernia in the abdomen, until the closure of the passage by the natural growth of the parts. Great care should be taken to reduce the Hernia completely before applying the truss; it should be worn at all times except at night, and should be applied before rising from the horizontal position.

The treatment of the Hernia of older persons is divided into the *palliative* and *curative*. The truss in the several forms in which it is manufactured is the instrument usually resorted to. It is true that sometimes the truss, especially in recent cases, and young patients, will effect a radical cure in the same way that it does in infants. The application of a truss to a Hernia on one side, will sometimes be followed by the development of the affection on the other. This is particularly the case in young patients. In the selection and application of a truss care should be taken that the pelvis is made the fixed point of attachment. This is to prevent the slipping of the truss from its place.

The *Causes* of Hernia are usually divided into those which are predisposing, and those which are remote or direct. The predisposing causes may be—

1. Congenital. The patulous condition of the several outlets of Hernia, at and anterior to birth, undoubtedly predisposes to the disease. In addition to these conditions of the outlets themselves, the parietes of the abdomen are sometimes weak, and hence predispose the patient to a protrusion of the viscera, on being exposed to any of the ordinary active causes. Like other physical defects of the organism, this is undoubtedly, in some cases, inherited from the parent.

A German author (Professor Roser) goes so far as to assert, "that External Inguinal Hernia, or more properly its sac, is almost always congenital." He says: "First, with respect to *Femoral Hernia*, the dragging out of the peritoneum is brought about by nodules of fat, which, appertaining to the subserous tissue, are firmly attached to the peritoneum. These nodules slide between the fibres of the *septum crurale*, thrust them asunder, and lead to their disappearance. The anterior part of a nodule passes out under the plica, covered only by *fascia superficialis*, and increases in size. Its movements are favored by its pyriform shape, and by the

motions of the body, and the peritoneum following it, a sac is gradually formed." This theory is confirmed by Professor Linhart, of Würzburg.

Professor Roser refers the existence of *External Inguinal Hernia* to the same cause, viz., "an open state of the upper part of the vaginal process;" which, he says, "occurs much oftener than is supposed." Other coexisting anomalies of the peritoneal formation are often met with. Besides the descent of the testis, there is a descent of the cœcum and sigmoid flexure, and disturbances of these often occur at the same time. (See Morgan's case, in Sir Astley Cooper, page 83.) As the author has found, in almost all the outer Inguinal Hernia that he has examined, such grounds for considering them congenital, he has come to the conclusion that the bulk of the cases considered as accidental, do not merit the appellation, inasmuch as the sac has been in existence prior to birth. He refers, in confirmation of his views, to Camper's statement, that of sixty-three full-timed children, in whom the testis had descended, the vaginal canal was obliterated only in seven; it being open on both sides in thirty-four, on the right side only in fourteen, and on the left side in eight. So likewise Professor Engel, whose investigations are now published in the *Wien Wochenschrift*, states that in children at birth, or during the first fourteen days afterwards, the vaginal canal is found oftener obliterated, or at least considerably shorter, on the left than on the right side;—a fact agreeing with the preponderance of Hernia on the right side. He found the canal entirely closed at birth in 10 per cent. After fourteen days, no trace of it could be found on the left side in 30 per cent; while it remained on both sides, at the end of fourteen days, in 60 per cent. In the adult, the presence or the remains of the vaginal canal was observed in 31 per cent. of the bodies examined; on both sides in 37·5 of these, and on the right side alone in 62·5.

The same author speaks of *Internal Inguinal Herniæ* as occurring most commonly in old men, from partial atrophy of the *fascia transversalis;* and not occurring so frequently in old women, from the narrower condition of the internal inguinal ring. *Umbilical Hernia*, he says, arises from the pressure of the viscera against the walls of the abdomen, according to the general belief; but adds, that even here some defect in the closure of the umbilical orifice often exists. (N. O. Medical and Surgical Journal, p. 257, vol. xvi, from Brit. and For. Med. Chir. Rev.)

2. Pregnancy, by weakening the walls of the abdomen, acts as a predisposing cause, especially to Femoral Hernia. Obesity, in both sexes, acts in the same way.

General debility may also be considered as predisposing to Hernia, by relaxing the parietes of the abdomen.

3. Certain occupations, where the muscular exertion is either excessive in amount, or very little. Laborers, horse-riders, farmers, drovers, &c., are liable to the disease. On the other hand, sedentary persons, writers, clerks, seamstresses, &c., are liable to Hernia, from debility of the parts, produced by want of exertion or use.